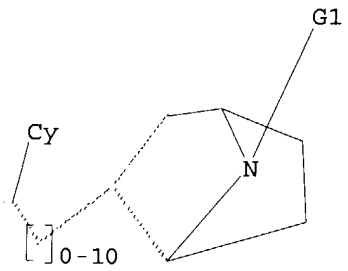
L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1 H,Ak

Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 15:09:10 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 1821 TO ITERATE

54.9% PROCESSED 1000 ITERATIONS 3 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 33861 TO 38979
PROJECTED ANSWERS: 3 TO 249

L2 3 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 15:09:17 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 36513 TO ITERATE

100.0% PROCESSED 36513 ITERATIONS 100 ANSWERS
SEARCH TIME: 00.00.01

L3 100 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	155.42	155.63

FILE 'CAPLUS' ENTERED AT 15:09:25 ON 18 OCT 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

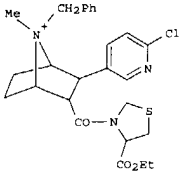
FILE COVERS 1907 - 18 Oct 2004 VOL 141 ISS 17
FILE LAST UPDATED: 17 Oct 2004 (20041017/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l3
L4 19 L3

=> d ibib abs hitstr tot

L4 ANSWER 1 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:928864 CAPLUS
DOCUMENT NUMBER: 140:164050
TITLE: Synthesis and analgesic activity of hydrochlorides and
quaternary ammoniums of epibatidine incorporated with amino acid ester
AUTHOR(S): Dong, Jing-Chao; Wang, Xin; Li, Run-Tao; Zhang, Hong-Mei; Cheng, Tie-Ming; Li, Chang-Ling
CORPORATE SOURCE: School of Pharmaceutical Sciences, Peking University, Beijing, 100083, Peop. Rep. China
SOURCE: Bioorganic & Medicinal Chemistry Letters (2003), 13(24), 4327-4329
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:164050
GI



I

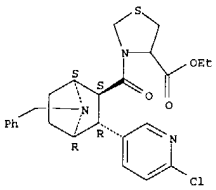
AB Hydrochloride derivs. and quaternary ammonium derivs. of epibatidine incorporated with amino acid ester were synthesized and evaluated for their in vivo analgesic activity and toxicity. Among all tested compds., compound I has the most potent analgesic activity. The quaternary ammonium salts showed better analgesic activity than the corresponding hydrochlorides. Both the hydrochlorides and quaternary salts showed significantly lower toxicity than epibatidine itself.

IT **654058-13-6P 654058-16-9P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis and analgesic activity of hydrochlorides and quaternary ammoniums of epibatidine incorporated with amino acid ester)
RN 654058-13-6 CAPLUS
CN 4-Thiazolidinecarboxylic acid, 3-[[(1R,2R,3S,4S)-3-(6-chloro-3-pyridinyl)-7-(phenylmethyl)-7-azabicyclo[2.2.1]hept-2-yl]carbonyl]-, ethyl ester, monohydrochloride, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

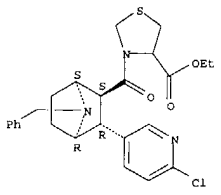
L4 ANSWER 1 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
7-(phenylmethyl)-7-azabicyclo[2.2.1]hept-2-yl]carbonyl]-, ethyl ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

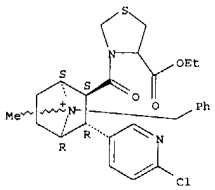
L4 ANSWER 1 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



● HCl

RN 654058-16-9 CAPLUS
CN 7-Azoniabicyclo[2.2.1]heptane, 2-(6-chloro-3-pyridinyl)-3-[[4-(ethoxycarbonyl)-3-thiazolidinyl]carbonyl]-7-methyl-7-(phenylmethyl)-, iodide, (1R,2R,3S,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



● I⁻

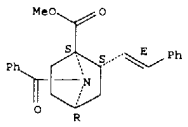
IT **654058-10-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and analgesic activity of hydrochlorides and quaternary ammoniums of epibatidine incorporated with amino acid ester)
RN 654058-10-3 CAPLUS
CN 4-Thiazolidinecarboxylic acid, 3-[[(1R,2R,3S,4S)-3-(6-chloro-3-pyridinyl)-

L4 ANSWER 2 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:405903 CAPLUS
DOCUMENT NUMBER: 139:197723
TITLE: Olefination of methyl (1S,2R,4R)-N-benzoyl-2-formyl-7-azabicyclo[2.2.1]heptane-1-carboxylate, a synthetic approach to new conformationally constrained prolines
AUTHOR(S): Gil, Ana M.; Bunuel, Elena; Diaz-de-Villegas, Maria D.; Cativiela, Carlos
CORPORATE SOURCE: ICMA, Departamento de Quimica Organica, Universidad de Zaragoza-CSIC, Zaragoza, 50009, Spain
SOURCE: Tetrahedron: Asymmetry (2003), 14(11), 1479-1488
CODEN: TASYE3; ISSN: 0957-4166
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:197723

AB Wittig olefination of Me (1S,2R,4R)-N-benzoyl-2-formyl-7-azabicyclo[2.2.1]heptane-1-carboxylate with several phosphoranes and the Horner-Wittig reaction, using Me diethylphosphonoacetate, have been tested in order to evaluate their utility in the synthesis of β-substituted conformationally constrained prolines. Subsequent elaboration of the resulting alkenes has provided proline-amino acid chimeras [combinations of proline with other α-amino acids, such as L-norvaline, L-norleucine, L-α-(3-phenylpropyl)glycine or L-homoglutamic acid] with the 7-azabicyclo[2.2.1]heptane skeleton in an enantiomerically pure form.

IT **583831-65-6P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(crystal structure of; preparation of conformationally constrained azabicyclo proline derivs. via Wittig olefinations of Me benzoylformylazabicycloheptane carboxylate with phosphoranes and Horner-Wittig reaction using Me diethylphosphonoacetate)
RN 583831-65-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-1-carboxylic acid, 7-benzoyl-2-[(1E)-2-phenylethenyl]-, methyl ester, (1S,2S,4R)- (9CI) (CA INDEX NAME)

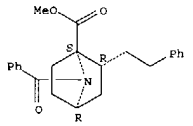
Absolute stereochemistry. Rotation (-).
Double bond geometry as shown.



IT **583831-71-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of conformationally constrained azabicyclo proline derivs. via
Wittig olefinations of Me benzoylformylazabicycloheptane carboxylate

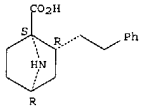
L4 ANSWER 2 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
with phosphoranes and Horner-Wittig reaction using Me diethylphosphonoacetate)
RN 583831-71-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-1-carboxylic acid, 7-benzoyl-2-(2-phenylethyl)-, methyl ester, (1S,2R,4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



IT **583831-75-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of conformationally constrained azabicyclo proline derivs. via Wittig olefinations of Me benzoylformylazabicycloheptane carboxylate with phosphoranes and Horner-Wittig reaction using Me diethylphosphonoacetate)
RN 583831-75-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-1-carboxylic acid, 2-(2-phenylethyl)-, hydrochloride, (1S,2R,4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

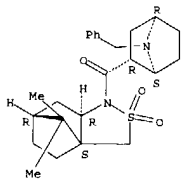


● HCl

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:863851 CAPLUS
DOCUMENT NUMBER: 139:53049
TITLE: Product subclass 28: α-silyl alcohols, ethers, and amines
AUTHOR(S): Aizpurua, J. M.; Palomo, C.
CORPORATE SOURCE: Kimika-Fakultatea, Facultad de Quimicas, Euskal Herriko Unibertsitatea, Univ. del Pais Vasco, San Sebastian, E-20080, Spain
SOURCE: Science of Synthesis (2002), 4, 595-632
CODEN: SSCYJ9
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review on methods for the preparation of α-silyl alcs., ethers, and amines. These compds. are valuable synthetic intermediates for the formation of C-H, C-C, C-O, C-N bonds by desilylation under nucleophilic, electrophilic, oxidative, or photochem. conditions.
IT **245729-49-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(reactions of α-silyl amine derived ammonium ylides, azomethine ylides, and α-amido carbanions)
RN 245729-49-1 CAPLUS
CN 3H-3a,6-Methano-2,1-benzisothiazole, hexahydro-8,8-dimethyl-1-[[(1S,2R,4R)-7-(phenylmethyl)-7-azabicyclo[2.2.1]hept-2-yl]carbonyl]-, 2,2-dioxide, (3aS,6R,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

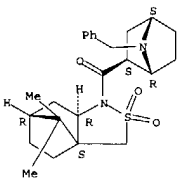


REFERENCE COUNT: 106 THERE ARE 106 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:303763 CAPLUS
DOCUMENT NUMBER: 137:169755
TITLE: Stereoselective construction of X-azabicyclo[m.2.1]alkanes by [3+2]-cycloaddition of non-stabilized cyclic azomethine ylides: synthesis of enantiopure constrained amino acids and formal total synthesis of optically active epibatidine
AUTHOR(S): Pandey, Ganesh; Laha, Joydev K.; Lakshmaiah, G.
CORPORATE SOURCE: Division of Organic Chemistry (Synthesis), National Chemical Laboratory, Pune, 411 008, India
SOURCE: Tetrahedron (2002), 58(18), 3525-3534
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:169755
AB A new and general strategy for the stereoselective construction of X-azabicyclo[m.2.1]alkanes has been developed by the [3+2]-cycloaddn. of cyclic azomethine ylides with suitable achiral dipolarophiles. The cyclic azomethine ylides, where the whole of the ylide conjugation is in the ring, have been generated by the sequential double desilylation of the N-alkyl-α,α'-bis(trimethylsilyl) cyclic amines utilizing Ag(I)F as one electron oxidant. The structural rigidity of cyclic azomethine ylides has allowed preferential facial discrimination by the dipolarophile resulting into very good exo/endo selectivity. The exo/endo selectivity associated with these cycloaddns. has been further exploited to access optically pure X-azabicyclo[m.2.1]alkanes by carrying out the cycloaddns. with the Oppolzer's acryloyl dipolarophile. Application of this methodol. is demonstrated by the construction of constrained amino acids related to azabicyclic structural framework and the formal total synthesis of optically active epibatidine.
IT **446872-99-7P 446873-00-3P 446873-09-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of in the stereo-selective synthesis of amino acids or epibatidine via [3+2]-cycloaddn. reaction using cyclic azomethine ylides)
RN 446872-99-7 CAPLUS
CN 3H-3a,6-Methano-2,1-benzisothiazole, hexahydro-8,8-dimethyl-1-[[(1R,2S,4S)-7-(phenylmethyl)-7-azabicyclo[2.2.1]hept-2-yl]carbonyl]-, 2,2-dioxide, (3aS,6R,7aR)- (9CI) (CA INDEX NAME)

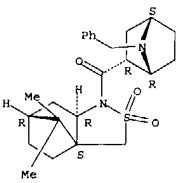
Absolute stereochemistry.

L4 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 446873-00-3 CAPLUS
CN 3H-3a,6-Methano 2,1-benzisothiazole, hexahydro-8,8-dimethyl-1-[[(1R,2R,4S)-7-(phenylmethyl)-7-azabicyclo[2.2.1]hept-2-yl]carbonyl]-, 2,2-dioxide, (3aS,6R,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

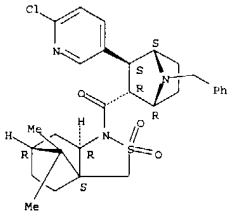


RN 446873-09-2 CAPLUS
CN 3H-3a,6-Methano-2,1-benzisothiazole, 1-[[(1R,2R,3S,4S)-3-(6-chloro-3-pyridinyl)-7-(phenylmethyl)-7-azabicyclo[2.2.1]hept-2-yl]carbonyl]hexahydro-8,8-dimethyl-, 2,2-dioxide, (3aS,6R,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

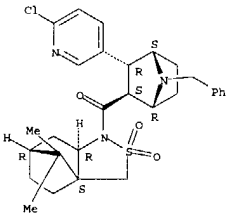
own work

L4 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



IT **446873-16-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of via [3+2]-cycloaddn. reaction using cyclic azomethine ylides)
RN 446873-16-1 CAPLUS
CN 3H-3a,6-Methano-2,1-benzisothiazole, 1 [[(1R,2S,3R,4S) 3 (6 chloro 3 pyridinyl)-7-(phenylmethyl)-7-azabicyclo[2.2.1]hept-2-yl]carbonyl]hexahydro-8,8-dimethyl-, 2,2-dioxide, (3aS,6R,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 78 THERE ARE 78 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

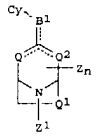
L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:123010 CAPLUS
DOCUMENT NUMBER: 136:183718
TITLE: Preparation of azabicycloalkanes as nicotinic cholinergic receptor agonists for treatment of central and autonomic nervous system disorders
INVENTOR(S): Bhatti, Balwinder Singh; Clark, Thomas Jeffrey
PATENT ASSIGNEE(S): Targacept, Inc., USA
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

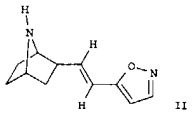
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002012245	A2	20020214	WO 2001-US22170	20010713
WO 2002012245	A3	20020613		
WO 2002012245	B1	20030320		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6624167	B1	20030923	US 2000-633156	20000804
AU 2001076911	A5	20020218	AU 2001-76911	20010713
EP 1305316	A2	20030502	EP 2001-954684	20010713
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001013033	A	20030715	BR 2001-13033	20010713
NZ 523728	A	20040924	NZ 2001-523728	20010713
NO 2003000547	A	20030204	NO 2003-547	20030204
US 2004152723	A1	20040805	US 2003-668692	20030923
PRIORITY APPLN. INFO.:			US 2000-633156 A	20000804
			WO 2001-US22170 W	20010713

OTHER SOURCE(S): MARPAT 136:183718
GI

L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



I



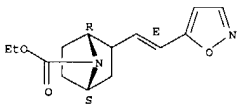
II

AB Title compds. I [Cy = 5-6 membered ring; B1 = alkylene bridging moiety; Q = (CH2)m; Q1 = (CH2)p; Q2 = (CH2)q; m = 1-4; p = 0-3; q = 0-2; m, p and q are selected such that the azabicyclic ring contains 6-9 members; Z = non-hydrogen substituent where n = 0-5; Z1 = H, alkyl] were prepared as nicotinic cholinergic receptor agonists. Thus, II was prepared in six steps by amidation of tropinone with Et chloroformate, bromination, ring contraction to intermediate Et 7 aza-2 (ethoxycarbonyl)bicyclo[2.2.1]hepta ne-7-carboxylate which is then reduced, condensed with di-Et (5-isoxazolylmethyl)phosphonate followed by N-deprotection. Low binding consts. indicate the compds. of the invention exhibit good high affinity binding to certain CNS nicotinic receptors with II exhibiting a Ki of 80 nM. I, as nicotinic cholinergic receptor agonists, are useful for the treatment of central and autonomic nervous system disorders.

IT **398490-30-7P 398490-31-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; preparation of azabicycloalkanes as nicotinic cholinergic receptor agonists)
RN 398490-30-7 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-7-carboxylic acid, 2-[(1E)-2-(5-isoxazolyl)ethenyl]-, ethyl ester, (1R,4S)-rel- (9CI) (CA INDEX NAME)

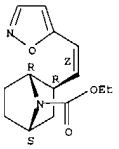
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 398490-31-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-7-carboxylic acid, 2-[(1Z)-2-(5-isoxazolyl)ethenyl]-, ethyl ester, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

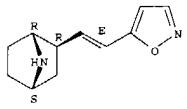
Relative stereochemistry.
Double bond geometry as shown.



IT **398489-63-9P 398489-64-0P 398489-65-1P**
398489-66-2P 398489-84-4P 398489-86-6P
398489-87-7P 398489-88-8P 398489-89-9P
398489-90-2P 398489-91-3P 398489-92-4P
398489-93-5P 398489-94-6P 398489-96-8P
398489-98-0P 398489-99-1P 398490-01-2P
398490-02-3P 398490-03-4P 398490-05-6P
398490-06-7P 398490-07-8P 398490-08-9P
398490-09-0P 398490-10-3P 398490-17-0P
398490-18-1P 398490-19-2P 398490-20-5P
398490-21-6P 398490-22-7P 398490-23-8P
398490-24-9P 398490-25-0P 398490-26-1P
398490-41-0P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(target compound; preparation of azabicycloalkanes as nicotinic cholinergic receptor agonists)
RN 398489-63-9 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-isoxazolyl)ethenyl]-, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

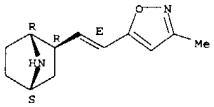


RN 398489-64-0 CAPLUS
CN 7 Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-isoxazolyl)ethenyl]-, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

RN 398489-65-1 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(3 methyl-5-isoxazolyl)ethenyl]-, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

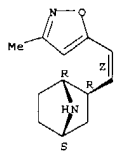
Relative stereochemistry.
Double bond geometry as shown.



RN 398489-66-2 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(3-methyl-5-isoxazolyl)ethenyl]-, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

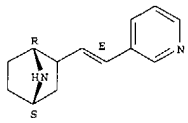
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



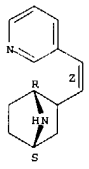
RN 398489-84-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(3-pyridinyl)ethenyl]-, (1R,4S)-rel-
(9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



RN 398489-86-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(3-pyridinyl)ethenyl]-, (1R,4S)-rel-
(9CI) (CA INDEX NAME)

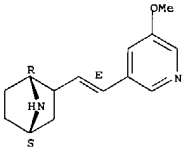
Relative stereochemistry.
Double bond geometry as shown.



RN 398489-87-7 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-methoxy-3-pyridinyl)ethenyl]-,

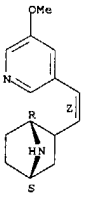
L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
(1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



RN 398489-88-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-methoxy-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

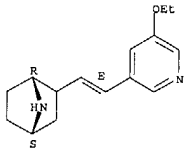
Relative stereochemistry.
Double bond geometry as shown.



RN 398489-89-9 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-ethoxy-3 pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

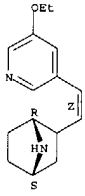
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



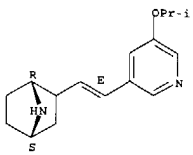
RN 398489-90-2 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-ethoxy-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



RN 398489-91-3 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-[5-(1-methylethoxy)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

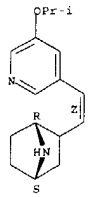
Relative stereochemistry.
Double bond geometry as shown.



RN 398489-92-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-[5-(1-methylethoxy)-3-

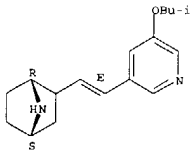
L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



RN 398489-93-5 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-[5-(2-methylpropoxy)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

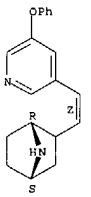
Relative stereochemistry.
Double bond geometry as shown.



RN 398489-94-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-[5-(2-methylpropoxy)-3-pyridinyl]ethenyl]-, (1R,4S)-rel (9CI) (CA INDEX NAME)

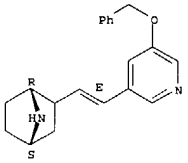
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



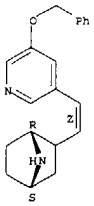
RN 398489-99-1 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-[5-(phenylmethoxy)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

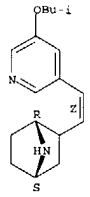


RN 398490-01-2 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-[5-(phenylmethoxy)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

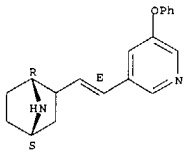


L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 398489-96-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-phenoxy-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



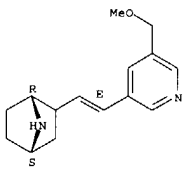
RN 398489-98-0 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-phenoxy-3-pyridinyl)ethenyl], (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

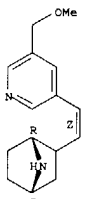
RN 398490-02-3 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-[5-(methoxymethyl)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



RN 398490-03-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-[5-(methoxymethyl)-3-pyridinyl]ethenyl], (1R,4S)-rel- (9CI) (CA INDEX NAME)

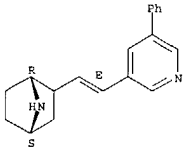
Relative stereochemistry.
Double bond geometry as shown.



RN 398490-05-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-phenyl-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

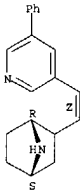
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 398490-06-7 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-phenyl-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



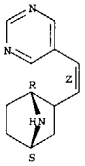
RN 398490-07-8 CAPLUS
CN 3-Pyridinol, 5-[(1E)-2-(1R,4S)-7-azabicyclo[2.2.1]hept-2-ylethenyl]-, rel-
(9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

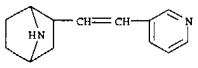
L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

RN 398490-10-3 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-pyrimidinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

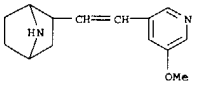
Relative stereochemistry.
Double bond geometry as shown.



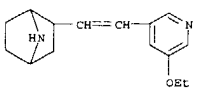
RN 398490-17-0 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(3-pyridinyl)ethenyl]- (9CI) (CA INDEX NAME)



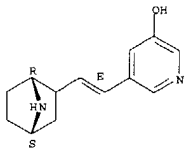
RN 398490-18-1 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(5-methoxy-3-pyridinyl)ethenyl]- (9CI) (CA INDEX NAME)



RN 398490-19-2 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(5-ethoxy-3-pyridinyl)ethenyl]- (9CI) (CA INDEX NAME)

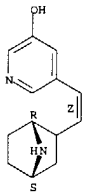


L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



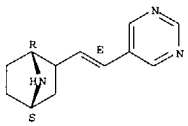
RN 398490-08-9 CAPLUS
CN 3-Pyridinol, 5-[(1Z)-2-(1R,4S)-7-azabicyclo[2.2.1]hept-2-ylethenyl]-, rel-
(9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



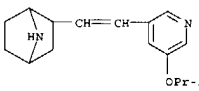
RN 398490-09-0 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-pyrimidinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

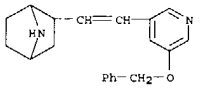


L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

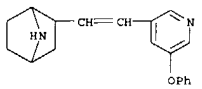
RN 398490-20-5 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-[5-(1-methylethoxy)-3-pyridinyl]ethenyl]
(9CI) (CA INDEX NAME)



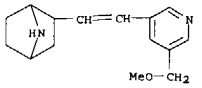
RN 398490-21-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-[5-(phenylmethoxy)-3-pyridinyl]ethenyl]- (9CI) (CA INDEX NAME)



RN 398490-22-7 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(5-phenoxy-3-pyridinyl)ethenyl]- (9CI) (CA INDEX NAME)

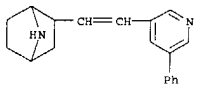


RN 398490-23-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-[5-(methoxymethyl)-3-pyridinyl]ethenyl]- (9CI) (CA INDEX NAME)

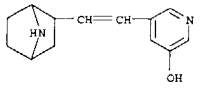


RN 398490-24-9 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(5-phenyl-3-pyridinyl)ethenyl]- (9CI) (CA INDEX NAME)

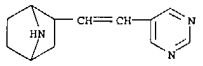
L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



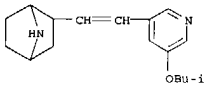
RN 398490-25-0 CAPLUS
CN 3-Pyridinol, 5-[2-(7-azabicyclo[2.2.1]hept 2-yl)ethenyl]- (9CI) (CA INDEX
NAME)



RN 398490-26-1 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(5-pyrimidinyl)ethenyl]- (9CI) (CA INDEX
NAME)



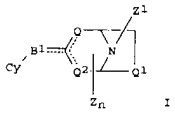
RN 398490-41-0 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane,
2-[2-[5-(2-methylpropoxy)-3-pyridinyl]ethenyl]-
(9CI) (CA INDEX NAME)



L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:51454 CAPLUS
DOCUMENT NUMBER: 136:102301
TITLE: Preparation of 2-pyridylmethyl(ene)-7-azabicyclo[2.2.1]heptanes as nicotinic cholinergic receptor agonists for treatment of central and autonomic nervous system disorders
INVENTOR(S): Bhatti, Balwinder Singh; Clark, Thomas Jeffrey; Miller, Craig Harrison; Schmitt, Jeffrey Daniel
PATENT ASSIGNEE(S): Targacept, Inc., USA
SOURCE: PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

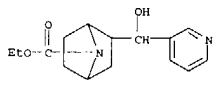
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002004442	A2	20020117	WO 2001-US14650	20010504
WO 2002004442	A3	20020516		
WO 2002004442	C2	20020613		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6579878	B1	20030617	US 2000-612467	20000707
PRIORITY APPLN. INFO.:			US 2000-612467 A	20000707

OTHER SOURCE(S): MARPAT 136:102301
GI

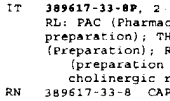


AB Title compds. I [wherein Cy = 5-6 membered aromatic ring; B1 = alkylene bridging moiety; Q = (CH2)m; Q1 = (CH2)p; Q2 = (CH2)q; m = 1-4; p = 0-3; q
= 0-2; m, p, and q are selected such that the azabicyclic ring contains 6-9 members; Z = non-hydrogen substituent; n = 0-5; Z1 = H or alkyl] were prepared as nicotinic cholinergic receptor agonists. For example, 2-[(3-pyridyl)methyl]-7-azabicyclo[2.2.1]heptane (II) was prepared in an

L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
8-step reaction sequence involving: treatment of tropinone with Et chloroformate to give Et 8-aza-3-oxobicyclo[3.2.1]octane-8-carboxylate (77.7%), α-bromination (58.1%), ring contraction to give Et 7-aza-2-(ethoxycarbonyl)bicyclo[2.2.1]heptane-7-carboxylate (75.4%), redn.
to the aldehyde (61%), redn. addn. with 3-bromopyridine (83.3%), redn. to form the 3-pyridylmethyl deriv. (96%), and N-deprotection (82%). II exhibited good high affinity binding to certain CNS nicotinic receptors with Ki of 43 nM and gave an Emax of 15% in an assay measuring neurotransmitter release from brain synaptosomes. In muscle and ganglion receptor interaction assays, II exhibited Emax values of 52% and 48%, resp. Thus, I are useful for the treatment of central and autonomic nervous system disorders without causing appreciable adverse effects.
IT **389617-40-7P**, Ethyl 2-[(3-pyridyl)hydroxymethyl]-7-azabicyclo[2.2.1]heptane-7-carboxylate **389617-42-9P**, Ethyl 2-[(3-pyridyl)methyl]-7-azabicyclo[2.2.1]heptane-7 carboxylate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; preparation of pyridylmethyl(ene) azabicycloheptanes as nicotinic cholinergic receptor agonists)
RN 389617-40-7 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-7-carboxylic acid, 2-(hydroxy-3-pyridinylmethyl)-, ethyl ester (9CI) (CA INDEX NAME)

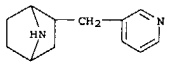


RN 389617-42-9 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-7-carboxylic acid, 2-(3-pyridinylmethyl)-, ethyl ester (9CI) (CA INDEX NAME)



IT **389617-33-8P**, 2-[(3-Pyridyl)methyl]-7-azabicyclo[2.2.1]heptane
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of pyridylmethyl(ene) azabicycloheptanes as nicotinic cholinergic receptor agonists)
RN 389617-33-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-(3-pyridinylmethyl)- (9CI) (CA INDEX NAME)

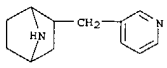
L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



IT **389617-44-1P**, 2-[(3-Pyridyl)methyl]-7-azabicyclo[2.2.1]heptane hemigalactarate **389617-46-3P**, 2-[(5-Methoxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]heptane **389617-48-5P**, 2-[(5-Ethoxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]heptane **389617-50-9P**, 2-[(5-Isopropoxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]heptane **389617-52-1P**, 2-[(5-Isobutoxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]heptane **389617-53-2P**, 2-[(5-Phenoxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]heptane **389617-55-4P**, 2-[(5-Benzyloxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]heptane **389617-57-6P**, 2-[(5-Methoxymethyl-3-pyridyl)methyl]-7-azabicyclo[2.2.1]heptane **389617-59-8P**, 2-[(5-Phenyl-3-pyridyl)methyl]-7-azabicyclo[2.2.1]heptane **389617-61-2P**, 2-[(5-Hydroxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]heptane **389617-63-4P**, 2-[(5-Pyrimidinyl)methyl]-7-azabicyclo[2.2.1]heptane **389617-65-6P**, 2-[(3-Pyridyl)methylene]-7-azabicyclo[2.2.1]heptane **389617-67-8P**, 2-[(5-Methoxy-3-pyridyl)methylene]-7-azabicyclo[2.2.1]heptane **389617-69-0P**, 2-[(5-Ethoxy-3-pyridyl)methylene]-7 azabicyclo[2.2.1]heptane **389617-70-3P**, 2-[(5-Isopropoxy-3-pyridyl)methylene]-7 azabicyclo[2.2.1]heptane **389617-71-4P**, 2-[(5-Isobutoxy-3-pyridyl)methylene]-7-azabicyclo[2.2.1]heptane **389617-73-6P**, 2-[(5-Phenoxy-3-pyridyl)methylene]-7-azabicyclo[2.2.1]heptane **389617-74-7P**, 2-[(5-Benzyloxy-3-pyridyl)methylene]-7-azabicyclo[2.2.1]heptane **389617-76-9P**, 2-[(5-Methoxymethyl-3-pyridyl)methylene]-7-azabicyclo[2.2.1]heptane **389617-77-0P**, 2-[(5-Phenyl-3-pyridyl)methylene]-7-azabicyclo[2.2.1]heptane **389617-79-2P**, 2-[(5-Hydroxy-3-pyridyl)methylene]-7-azabicyclo[2.2.1]heptane **389617-80-5P**, 2-[(5-Pyrimidinyl)methylene]-7-azabicyclo[2.2.1]heptane **389617-82-7P**, 2-[(5-Pyrimidinyl)methyl]-7-azabicyclo[2.2.1]hept-2-ene **389617-84-9P**, 2-[(3-Pyridyl)methyl]-7-azabicyclo[2.2.1]hept-2-ene **389617-86-1P**, 2-[(5-Methoxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]hept 2-ene **389617-88-3P**, 2-[(5-Ethoxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]hept 2-ene **389617-90-7P**, 2-[(5-Isopropoxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]hept-2-ene **389617-92-9P**, 2-[(5-Isobutoxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]hept-2-ene **389617-94-1P**, 2-[(5-Phenoxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]hept-2-ene **389617-96-3P**, 2-[(5-Benzyloxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]hept-2 ene **389617-98-5P**, 2-[(5-Methoxymethyl-3-pyridyl)methyl]-7-azabicyclo[2.2.1]hept-2-ene **389618-00-2P**, 2-[(5-Phenyl-3-pyridyl)methyl]-7-azabicyclo[2.2.1]hept-2-ene **389618-02-4P**, 2-[(5-Hydroxy-3-pyridyl)methyl]-7-azabicyclo[2.2.1]hept-2-ene
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of pyridylmethyl(ene) azabicycloheptanes as nicotinic cholinergic receptor agonists)
RN 389617-44-1 CAPLUS
CN Galactaric acid, compd. with 2-(3-pyridinylmethyl)-7-azabicyclo[2.2.1]heptane (1:2) (9CI) (CA INDEX NAME)

L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CM 1

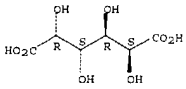
CRN 389617-33-8
CMF C12 H16 N2



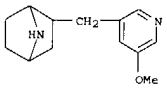
CM 2

CRN 526-99-8
CMF C6 H10 O8

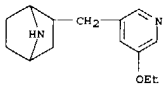
Relative stereochemistry.



RN 389617-46-3 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(5-methoxy-3-pyridinyl)methyl]- (9CI) (CA INDEX NAME)

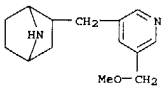


RN 389617-48-5 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(5-ethoxy-3-pyridinyl)methyl]- (9CI) (CA INDEX NAME)

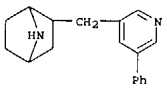


RN 389617-50-9 CAPLUS

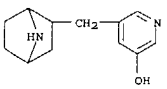
L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



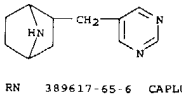
RN 389617-59-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(5-phenyl-3-pyridinyl)methyl]- (9CI) (CA INDEX NAME)



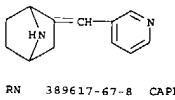
RN 389617-61-2 CAPLUS
CN 3-Pyridinol, 5-(7-azabicyclo[2.2.1]hept-2-ylmethyl)- (9CI) (CA INDEX NAME)



RN 389617-63-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-(5-pyrimidinylmethyl)- (9CI) (CA INDEX NAME)

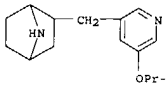


RN 389617-65-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-(3 pyridinylmethylene)- (9CI) (CA INDEX NAME)

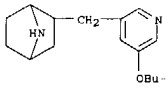


RN 389617-67-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(5-methoxy-3-pyridinyl)methylene]- (9CI)

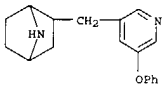
L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CN 7-Azabicyclo[2.2.1]heptane, 2-[[5-(1-methylethoxy)-3-pyridinyl]methyl]- (9CI) (CA INDEX NAME)



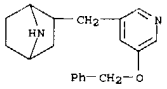
RN 389617-52-1 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[[5-(2-methylpropoxy)-3-pyridinyl]methyl]- (9CI) (CA INDEX NAME)



RN 389617-53-2 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(5-phenoxy-3-pyridinyl)methyl]- (9CI) (CA INDEX NAME)

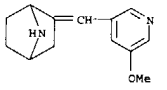


RN 389617-55-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[[5-(phenylmethoxy)-3-pyridinyl]methyl]- (9CI) (CA INDEX NAME)

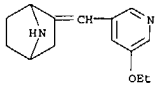


RN 389617-57-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[[5-(methoxymethyl)-3-pyridinyl]methyl]- (9CI) (CA INDEX NAME)

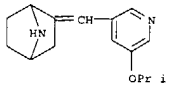
L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
(CA INDEX NAME)



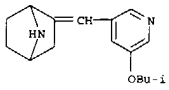
RN 389617-69-0 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(5-ethoxy-3-pyridinyl)methylene]- (9CI) (CA INDEX NAME)



RN 389617-70-3 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane,
2-[[5-(1-methylethoxy)-3-pyridinyl]methylene]- (9CI) (CA INDEX NAME)

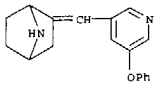


RN 389617-71-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane,
2-[[5-(2-methylpropoxy)-3-pyridinyl]methylene]- (9CI) (CA INDEX NAME)

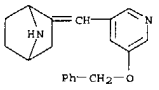


RN 389617-73-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(5-phenoxy-3-pyridinyl)methylene]- (9CI) (CA INDEX NAME)

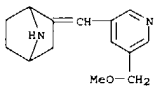
L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



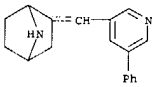
RN 389617-74-7 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[[5-(phenylmethoxy)-3-pyridinyl]methylene]- (9CI) (CA INDEX NAME)



RN 389617-76-9 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[[5-(methoxymethyl)-3-pyridinyl]methylene]- (9CI) (CA INDEX NAME)

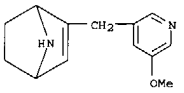


RN 389617-77-0 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(5-phenyl-3-pyridinyl)methylene]- (9CI) (CA INDEX NAME)

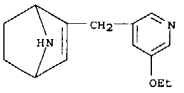


RN 389617-79-2 CAPLUS
CN 3-Pyridinol, 5-(7-azabicyclo[2.2.1]hept-2-ylidenemethyl)- (9CI) (CA INDEX NAME)

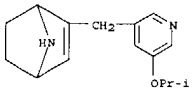
L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



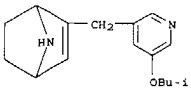
RN 389617-88-3 CAPLUS
CN 7-Azabicyclo[2.2.1]hept-2-ene, 2-[(5-ethoxy-3-pyridinyl)methyl] (9CI) (CA INDEX NAME)



RN 389617-90-7 CAPLUS
CN 7-Azabicyclo[2.2.1]hept-2-ene, 2-[[5-(1-methylethoxy)-3-pyridinyl]methyl]- (9CI) (CA INDEX NAME)

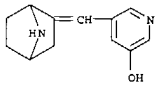


RN 389617-92-9 CAPLUS
CN 7-Azabicyclo[2.2.1]hept-2-ene, 2-[[5-(2-methylpropoxy)-3-pyridinyl]methyl]- (9CI) (CA INDEX NAME)

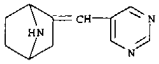


RN 389617-94-1 CAPLUS
CN 7-Azabicyclo[2.2.1]hept-2-ene, 2-[(5-phenoxy-3-pyridinyl)methyl]- (9CI) (CA INDEX NAME)

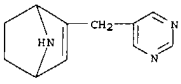
L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



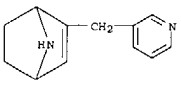
RN 389617-80-5 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-(5-pyrimidinylmethylene)- (9CI) (CA INDEX NAME)



RN 389617-82-7 CAPLUS
CN 7-Azabicyclo[2.2.1]hept-2-ene, 2-(5-pyrimidinylmethyl)- (9CI) (CA INDEX NAME)

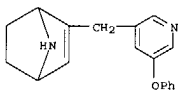


RN 389617-84-9 CAPLUS
CN 7-Azabicyclo[2.2.1]hept-2-ene, 2-(3-pyridinylmethyl)- (9CI) (CA INDEX NAME)

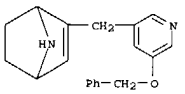


RN 389617-86-1 CAPLUS
CN 7-Azabicyclo[2.2.1]hept-2-ene, 2-[(5-methoxy-3-pyridinyl)methyl] (9CI) (CA INDEX NAME)

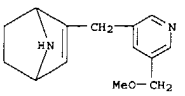
L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



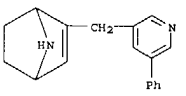
RN 389617-96-3 CAPLUS
CN 7-Azabicyclo[2.2.1]hept-2-ene, 2-[[5-(phenylmethoxy)-3-pyridinyl]methyl]- (9CI) (CA INDEX NAME)



RN 389617-98-5 CAPLUS
CN 7-Azabicyclo[2.2.1]hept-2-ene, 2-[[5-(methoxymethyl)-3-pyridinyl]methyl]- (9CI) (CA INDEX NAME)

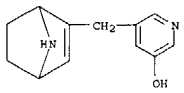


RN 389618-00-2 CAPLUS
CN 7-Azabicyclo[2.2.1]hept-2-ene, 2-[(5-phenyl-3-pyridinyl)methyl] (9CI) (CA INDEX NAME)



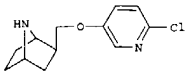
RN 389618-02-4 CAPLUS
CN 3-Pyridinol, 5-(7-azabicyclo[2.2.1]hept-2-en-2-ylmethyl)- (9CI) (CA INDEX NAME)

L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L4 ANSWER 7 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:501537 CAPLUS
DOCUMENT NUMBER: 135:272842
TITLE: Synthesis and nicotinic acetylcholine receptor binding affinity of exo- and endo-2-(pyridinyloxymethyl)-7-azabicyclo[2.2.1]heptanes
AUTHOR(S): Cheng, Jie; Izenwasser, Sari; Wade, Dean; Trudell, Mark L.
CORPORATE SOURCE: Department of Chemistry, University of New Orleans, New Orleans, LA, 70148, USA
SOURCE: Medicinal Chemistry Research (2001), 10(6), 356-365
CODEN: MCREEB; ISSN: 1054-2523
PUBLISHER: Birkhaeuser Boston
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:272842
GI



I

AB A series of novel epibatidine analogs containing a pyridinyloxymethyl group at the 2-position, e.g. I, were prepared and evaluated as ligands for the nicotinic acetylcholine receptor (nAChR). The in vitro binding affinities (Ki) of the 7-azabicyclo[2.2.1]heptane derivs. were measured relative to [3H]-(-)-cytisine in rat caudate-putamen tissue.

IT **362607-47-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and nicotinic acetylcholine receptor binding affinity of (pyridinyloxymethyl)azabicycloheptanes)

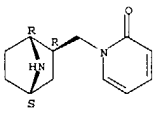
RN 362607-47-4 CAPLUS
CN 2(1H)-Pyridinone, 1-[(1R,2R,4S)-7-azabicyclo[2.2.1]hept-2-ylmethyl]-, rel-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 362607-46-3
CMF C12 H16 N2 O

Relative stereochemistry.

L4 ANSWER 7 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



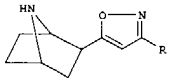
CM 2

CRN 144-62-7
CMF C2 H2 O4

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:674954 CAPLUS
DOCUMENT NUMBER: 132:35946
TITLE: Design and synthesis of isoxazole containing bioisosteres of epibatidine as potent nicotinic acetylcholine receptor agonists
AUTHOR(S): Singh, Satendra; Avor, Kwasi S.; Pouw, Buddy; Seale, Thomas W.; Basmadjian, Garo P.
CORPORATE SOURCE: Department of Medicinal Chemistry and Pharmaceutics, College of Pharmacy, University of Oklahoma Health Sciences Center, Oklahoma City, OK, 73190, USA
SOURCE: Chemical & Pharmaceutical Bulletin (1999), 47(10), 1501-1505
CODEN: CPBTAL; ISSN: 0009-2363
PUBLISHER: Pharmaceutical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 132:35946
GI



II

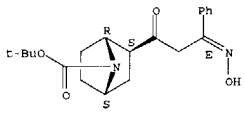
AB An efficient synthesis of isoxazole epibatidine analogs was described. The synthesis proceeded from exo-7-azabicyclo[2.2.1]heptane-2,7-dicarboxylic acid 7-(1,1-dimethylethyl) 2-Me ester (I). I was reacted with the dilithium salt of an appropriately substituted oxime, HON:C(R)Me in THF (THF). Cyclodehydration of the resultant β-keto oxime and deprotection of the N-(tert-butyloxycarbonyl) group in 5 N aqueous HCl afforded the desired (±)-epibatidine analogs II (R = H, Me, Ph). The binding affinities of these compds. were determined at the nicotinic acetylcholine receptor for the displacement of [3H]cytisine. The unsubstituted II (R = H) showed the lower binding potency compared to the 3'-methylisoxazole analog II (R = Me). Substitution with a Ph group at the 3'-position of the isoxazole significantly reduced the binding potency. The in vivo toxicol. studies of these analogs were also performed. The LD50 of the analogs ranged in the order: Me>H>Ph.

IT **252305-13-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(design and synthesis of isoxazole containing bioisosteres of epibatidine as potent nicotinic acetylcholine receptor agonists)

RN 252305-13-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-7-carboxylic acid, 2-[(3E)-3-(hydroxyimino)-1-oxo-3-phenylpropyl]-, 1,1-dimethylethyl ester, (1R,2S,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

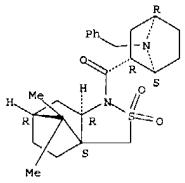


REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L4 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L4 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:524502 CAPLUS
DOCUMENT NUMBER: 131:271769
TITLE: [3+2]-Cycloaddition of nonstabilized azomethine ylides, part 9: a general approach for the construction of X azabicyclo[m.2.1]alkanes in optically pure form by asymmetric 1,3-dipolar cycloaddition reactions
AUTHOR(S): Pandey, Ganesh; Laha, Joydev K.; Mohanakrishnan, A. K.
CORPORATE SOURCE: Division of Organic Chemistry (Synthesis), National Chemical Laboratory, Pune, 411008, India
SOURCE: Tetrahedron Letters (1999), 40(33), 6065-6068
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 131:271769
AB A general strategy for the construction of X-azabicyclo[m.2.1]alkane frameworks in optically pure form is reported by the asym. [3+2]-cycloaddn. reaction of cyclic azomethine ylides with Oppolzer's acryloyl camphor sultam.
IT **245729-49-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of azabicyclo[m.2.1]alkanes in optically pure form by asym.
1,3 dipolar cycloaddn. reactions of azomethine ylides)
RN 245729-49-1 CAPLUS
CN 3H-3a,6-Methano-2,1-benzisothiazole, hexahydro-8,8-dimethyl-1-[[(1S,2R,4R)-7-(phenylmethyl)-7-azabicyclo[2.2.1]hept-2-yl]carbonyl]-, 2,2-dioxide, (3aS,6R,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

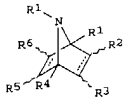
L4 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:650040 CAPLUS
DOCUMENT NUMBER: 129:276081
TITLE: Preparation of 7-azabicyclo[2.2.1]heptane and -heptene derivatives as cholinergic receptor ligands
INVENTOR(S): Shen, T. Y.; Harman, W. Dean; Huang, Dao Fei; Gonzalez, Javier
PATENT ASSIGNEE(S): University of Virginia, USA
SOURCE: U.S., 46 pp., Cont.-in part of U.S. Ser. No. 41,445, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5817679	A	19981006	US 1994-296463	19940825
CA 2159723	AA	19941013	CA 1994-2159723	19940401
CN 1133045	A	19961009	CN 1994-192237	19940401
CN 1052726	B	20000524		
HU 74380	A2	19961230	HU 1995-2863	19940401
CA 2196979	AA	19960229	CA 1995-2196979	19950825
WO 9606093	A1	19960229	WO 1995-US10884	19950825
W: AU, CA, CN, HU, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9535406	A1	19960314	AU 1995-35406	19950825
AU 708112	B2	19990729		
EP 778835	A1	19970618	EP 1995-932333	19950825
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1163613	A	19971029	CN 1995-195674	19950825
CN 1071753	B	20010926		
HU 77938	A2	19981130	HU 1998-1527	19950825
JP 2002504883	T2	20020212	JP 1996-508310	19950825
US 6060473	A	20000509	US 1996-700230	19960820
US 6255490	B1	20010703	US 1998-23844	19980213

PRIORITY APPLN. INFO.: US 1993-41445 B2 19930401
WO 1994 US3573 A2 19940401
US 1994-296463 A 19940825
US 1995-2551P P 19950821
WO 1995-US10884 W 19950825

OTHER SOURCE(S): MARPAT 129:276081
GI

L4 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



I

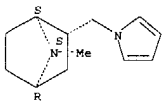
AB Title compds. (I; R1, R4 = H, alkyl, substituted alkyl; R2 = H, alkyl, alkenyl, heterocyclyl, heterocyclylthio, NH2, heterocyclylamino, CONH2, heterocyclylcarbonyl, heterocyclylalkyl, etc.; R3, R5, R6 = H alkyl substituted alkyl, NH2, halo, CO2H, alkoxycarbonyl, alkylsulfonyl, aryl, heteroaryl, arylsulfonyl, etc.; R2R3 may form a cyclic system; R7 = H, alkyl, substituted alkyl, aryl, cycloalkyl) were prepared to treat disorders associated with a decrease or increase in cholinergic activity. Thus, (2-chloro-5-pyridyl)(phenylsulfonyl)acetylene was treated with N-carbomethoxypyrrole to give 7-carbomethoxy-2-(2-chloro-5-pyridyl)-3-(phenylsulfonyl)-7-azabicyclo[2.2.2]-2,5-diene which underwent reductive dephenylsulfonylation with sodium dihydrophosphate and sodium amalgam followed by hydrogenation and decarbomethoxylation to give (±)-epibatidine and endo-epibatidine. (±)-Epibatidine was treated with formamidinate hydrochloride to give N-formamidinylepibatidine dichydrochloride (II). II at 10-7M had 104% inhibition in binding to the acetylchloine nicotinic receptor using a standard binding assay.

IT **163299-78-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of azabicyclo[2.2.1]heptane and -heptene derivs. as cholinergic receptor ligands)

RN 163299-78-3 CAPLUS

CN 7-Azabicyclo[2.2.1]heptane, 7-methyl-2-(1H-pyrrol-1-ylmethyl)-, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

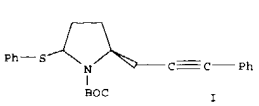


REFERENCE COUNT: 150 THERE ARE 150 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

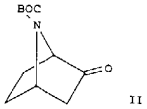
L4 ANSWER 11 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:435165 CAPLUS
DOCUMENT NUMBER: 129:175829
TITLE: Formal synthesis of natural epibatidine and of its enantiomer: use of radical cyclization in an enantiospecific route
AUTHOR(S): Clive, Derrick L. J.; Yeh, Vince S. C.
CORPORATE SOURCE: Chemistry Department, University of Alberta, Edmonton, AB, T6G 2G2, Can.
SOURCE: Tetrahedron Letters (1998), 39(27), 4789-4792
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 129:175829
GI



I



II

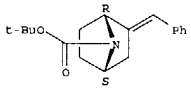
AB (S)-Pyroglutamic acid was converted into the (phenylthio)acetylene (I), which undergoes radical cyclization to the 7-azabicyclo[2.2.1]heptane, followed by ozonolysis to afford ketone (II), a synthetic precursor of (-)-epibatidine.

IT **211426-31-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(formal synthesis of natural epibatidine and its enantiomer via enantiospecific radical cyclization)

RN 211426-31-2 CAPLUS

CN 7-Azabicyclo[2.2.1]heptane-7-carboxylic acid, 2-(phenylmethylene)-, 1,1-dimethylethyl ester, (1R,4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS

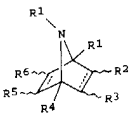
L4 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:393886 CAPLUS
DOCUMENT NUMBER: 125:58831
TITLE: 7-Azabicyclo[2.2.1]heptane and -heptene derivatives as cholinergic receptor ligands
INVENTOR(S): Shen, T. Y.; Harman, W. Dean; Huang, Dao Fei; Gonzalez, Javier
PATENT ASSIGNEE(S): University of Virginia, USA
SOURCE: PCT Int. Appl., 154 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9606093	A1	19960229	WO 1995-US10884	19950825
W: AU, CA, CN, HU, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5817679	A	19981006	US 1994 296463	19940825
AU 9535406	A1	19960314	AU 1995-35406	19950825
AU 708112	B2	19990729		
EP 778835	A1	19970618	EP 1995-932333	19950825
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 2002504883	T2	20020212	JP 1996-508310	19950825

PRIORITY APPLN. INFO.: US 1994-296463 A 19940825
US 1993-41445 B2 19930401
US 1995-2551P P 19950821
WO 1995-US10884 W 19950825

OTHER SOURCE(S): MARPAT 125:58831
GI

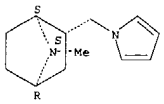


I

AB 7-Azabicyclo[2.2.1] heptane and -heptene derivs. I (R1, R4 = H, alkyl, substituted alkyl; R2 = H, alkyl, alkenyl, heterocyclyl, heterocyclylthio, amino heterocyclylamino, carbamoyl, heterocyclylcarbonyl, heterocyclylalkyl, etc.; R3, R5, R6 = H alkyl substituted alkyl, amino, halo, CO2H, alkoxycarbonyl, alkylsulfonyl, aryl, heteroaryl, arylsulfonyl, etc.; R2R3 may form a cyclic system; R7 = H, alkyl, substituted alkyl, aryl, cycloalkyl) were prepared to treat disorders associated with a

L4 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
or increase in cholinergic activity. Thus, (2-chloro-5-pyridyl)(phenylsulfonyl)acetylene was treated with N-carbomethoxypyrrole to give 7-carbomethoxy-2 (2 chloro-5-pyridyl)-3 (phenylsulfonyl)-7-azabicyclo[2.2.2]-2,5-diene, which underwent reductive dephenylsulfonylation with sodium dihydrophosphate and sodium amalgam followed by hydrogenation and decarbomethoxylation to give (±)-epibatidine and endo-epibatidine. (±)-Epibatidine was treated with formamidinate hydrochloride to give N-formamidinylepibatidine dichydrochloride. N-formamidinylepibatidine dichydrochloride at 10-7 M had 104% inhibition in binding to the acetylchloine nicotinic receptor using a std. binding assay.
IT **163299-78-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of azabicyclo[2.2.1]heptane and -heptene derivs. as cholinergic
receptor ligands)
RN 163299-78-3 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 7-methyl-2-(1H-pyrrol-1-ylmethyl)-, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

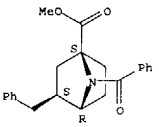
Relative stereochemistry.



L4 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:722744 CAPLUS
DOCUMENT NUMBER: 124:29581
TITLE: Synthesis of bridged azabicyclic compounds using radical translocation reactions of 1-(o-bromobenzoyl)-2-(prop-2-enyl)pyrrolidines
AUTHOR(S): Sato, Tatsunori; Kugo, Yasuhiro; Nakaumi, Erina; Ishibashi, Hiroyuki; Ikeda, Masazumi
CORPORATE SOURCE: Kyoto Pharmaceutical Univ., Kyoto, 607, Japan
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1995), (14), 1801-9
CODEN: JCPRB4; ISSN: 0300-922X
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 124:29581
AB A new synthesis of the 7-azabicyclo[2.2.1]heptane and 8-azabicyclo[3.2.1]octane systems is described in which α-acylamino radicals generated from 1-(o-bromobenzoyl)-2 (2-propenyl)pyrrolidines by a
Bu3SnH-mediated radical translocation reaction are cyclized. Treatment of
1-(2-bromobenzoyl)-2-(2-propenyl)-D,L-proline Me ester with Bu3SnH in the presence of a catalytic amount of azoisobutyronitrile in boiling toluene gave exo- and endo-7-benzoyl-3-methyl-7-azabicyclo[2.2.1]heptane-1-carboxylic acid Me ester [42% yield as a diastereoisomeric mixture (66:34)]
and an 8-benzoyl-8-azabicyclo[3.2.1]octane 1-carboxylic acid Me ester (a 6-endo product) (30%), together with a reduction product, 1-benzoyl-2-(2-propenyl)proline Me ester (12%). The regiochem. (5-exo/6 endo) of this cyclization could be controlled by the introduction of a substituent on the propenyl group. The substituent(s) at the 2- and/or 4-position(s) of the pyrrolidine ring were found to play an important role in this cyclization.
IT **171107-71-4P 171107-72-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of bridged azabicyclic compds. via radical translocation of
(bromobenzoyl)(propenyl)pyrrolidines)
RN 171107-71-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-1-carboxylic acid, 7-benzoyl-3-(phenylmethyl)-, methyl ester, exo- (9CI) (CA INDEX NAME)

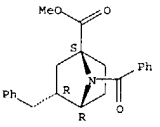
Relative stereochemistry.

L4 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 171107-72-5 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-1-carboxylic acid, 7-benzoyl-3-(phenylmethyl)-, methyl ester, endo (9CI) (CA INDEX NAME)

Relative stereochemistry.



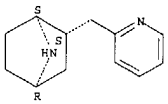
L4 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:584214 CAPLUS
DOCUMENT NUMBER: 123:132885
TITLE: Preparation of azabicycloheptane derivatives and their
use as pharmaceuticals including analgesics
INVENTOR(S): Akasaka, Kozo; Kimura, Teiji; Senaga, Masahiro; Machida, Yoshimasa
PATENT ASSIGNEE(S): Eisai Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07061940	A2	19950307	JP 1994-39311	19940215
PRIORITY APPLN. INFO.:			JP 1993-169775	19930617

OTHER SOURCE(S): MARPAT 123:132885
GI For diagram(s), see printed CA Issue.
AB The title derivs. I [R = H, lower alkyl, lower alkoxy; Y = NH, CH2, O, S; Z = Ph, (N-oxy)pyridyl, (N-oxy)pyrazyl, (N-oxy)pyrimidinyl, (N-oxy)pyridazinyl, (N-oxy)quinolyl, (N-oxy)isoquinolyl, (N-oxy)indolyl, (tetrahydro)furyl, (tetrahydro)pyranyl, (tetrahydro)thienyl, these may be substituted; n = 0 5; Z = 6-chloro-3-pyridyl] or their pharmaceutically acceptable salts are claimed. Analgesics containing I or
their salts as active ingredients are claimed. Muscle relaxants, antihypotensives, Parkinsonism inhibitors, Alzheimer's disease inhibitors,
ulcerative colitis inhibitors, or tobacco dependence inhibitors containing I
or their salts as active ingredients are also claimed.
2-Tosyl-7-(ethoxycarbonyl)azabicyclo[2.2.1] 1,4-heptadiene was treated with NaBH4 in EtOH at 0° for 1 h to give 2-tosyl-7-(ethoxycarbonyl)azabicyclo[2.2.1]-4-heptene. This was treated with Na amalgam in MeOH containing Na2HPO4 at 0° for 3 h to give 7-(ethoxycarbonyl)azabicyclo[2.2.1]-4-heptene, which in DMF was further treated with 3-bromopyridine in the presence of Bu4NCl, HCO2K, and (AcO)2Pd at 60° for 24 h to give 53% exo-2-(3 pyridyl)-7-(ethoxycarbonyl)azabicyclo[2.2.1]heptane. Exo-2-(5-pyrimidyl)-7-azabicyclo[2.2.1]heptane showed higher analgesic activity than morphine in
the tail-flick test in mice.
IT **166746-22-1P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(bicycloheptane derivs. and their heteroatom analogs as analgesics, muscle relaxants, or inhibitors for hypotension, parkinsonism, Alzheimer's disease, ulcerative colitis, or tobacco dependence)
RN 166746-22-1 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-(2-pyridinylmethyl)-, dihydrochloride, exo- (9CI) (CA INDEX NAME)

Relative stereochemistry.

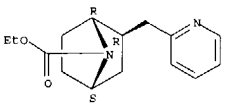
L4 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



●2 HCl

IT **166746-11-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(decarboethoxylation and HCl salt formation of; preparation of bicycloheptane derivs. and their heteroatom analogs as pharmaceuticals)
RN 166746-11-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-7-carboxylic acid, 2-(2-pyridinylmethyl)-, ethyl ester, exo- (9CI) (CA INDEX NAME)

Relative stereochemistry.

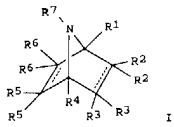


L4 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:570767 CAPLUS
DOCUMENT NUMBER: 123:111844
TITLE: Preparation of 7-azabicyclo[2.2.1]heptanes and -heptenes as analgesics and antiinflammatory agents
INVENTOR(S): Shen, T. Y.; Harman, W. Dean; Huang, Dao Fei; Gonzalez, Javier
PATENT ASSIGNEE(S): University of Virginia, USA
SOURCE: PCT Int. Appl., 134 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

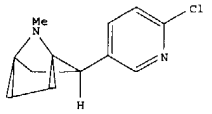
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9422868	A1	19941013	WO 1994-US3573	19940401
W: AU, CA, CN, HU, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2159723	AA	19941013	CA 1994-2159723	19940401
AU 9464971	A1	19941024	AU 1994-64971	19940401
AU 695682	B2	19980820		
EP 691971	A1	19960117	EP 1994-912381	19940401
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1133045	A	19961009	CN 1994-192237	19940401
CN 1052726	B	20000524		
JP 08511768	T2	19961210	JP 1994-522396	19940401
HU 74380	A2	19961230	HU 1995-2863	19940401
US 6117889	A	20000912	US 1996-532584	19960116
US 6060473	A	20000509	US 1996-700230	19960820
US 6255490	B1	20010703	US 1998-23844	19980213

PRIORITY APPLN. INFO.:		
US 1993-41445	A	19930401
WO 1994-US3573	W	19940401
US 1994-296463	A1	19940825
US 1995-2551P	P	19950821

OTHER SOURCE(S): MARPAT 123:111844
GI



I

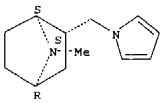


II

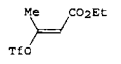
L4 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

AB Title compds. [I; R1,R4 = H, (un)substituted alkyl, aryl, alkoxycarbonyl, etc.; R2 = H, alk(en)yl, alkoxycarbonyl, cyano, etc.; R3,R5,R6 = H, halo, (un)substituted alkyl, (di)(alkyl)amino, CO2H, etc.; R2R3 = CONR8CO, CH(OH)NR8CO; R7 = H, (halo)alkyl, aryl, etc.; R8 = alkyl, (hetero)aryl; dashed lines = optional bonds] were prepared Thus, PhSO2C.tplbond.CR (R = 2-chloro-5-pyridyl) was cyclocondensed with N-methoxycarbonylpyrrole (preparation each given) and the product converted in 3 steps to I (R1 = R3-R7 = H, 1 each of R2 = 2-chloro-5-pyridyl and the other = H, dashed lines = null). Title compound II had ED50 of <10μg/kg (route of administration not given) in the Straub-Tail analgesic activity assay.
IT **163299-78-3P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of 7-azabicyclo[2.2.1]heptanes and -heptenes as analgesics and antiinflammatory agents)
RN 163299-78-3 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 7-methyl-2-(1H-pyrrol-1-ylmethyl)-, (1R,2R,4S)-rel (9CI) (CA INDEX NAME)

Relative stereochemistry.



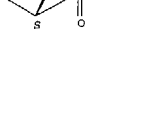
L4 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:533576 CAPLUS
DOCUMENT NUMBER: 121:133576
TITLE: Palladium-catalyzed asymmetric hydroalkenylation of norbornene
AUTHOR(S): Ozawa, Fumiyuki; Kobatake, Yasuhiro; Kubo, Akihiko; Hayashi, Tamio
CORPORATE SOURCE: Catalysis Research Center, Hokkaido University, Sapporo, 060, Japan
SOURCE: Journal of the Chemical Society, Chemical Communications (1994), (11), 1323-4
CODEN: JCCCAT; ISSN: 0022-4936
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 121:133576
GI



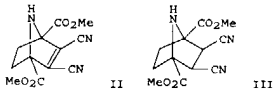
I

AB Catalytic asym. hydroalkenylation of norbornene (bicyclo[2.2.1]hept-2-ene) can be performed in 093% e.e. using 1-methyl-2-(ethoxycarbonyl)ethenyl triflate (I) as alkenylation agent and Pd{(R)-binap}2 as chiral catalyst.
IT **157134-79-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 157134-79-7 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-7-carboxylic acid, 2-(2-phenylethenyl)-, methyl ester, [1R-[1α,2α(E),4α]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



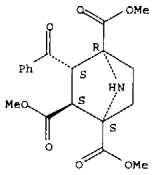
L4 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1984:630340 CAPLUS
DOCUMENT NUMBER: 101:230340
TITLE: Photocycloaddition of 1,1'-bis(methoxycarbonyl)divinylamine with various unsaturated compounds. Synthesis of novel 7-azanorbornane derivatives
AUTHOR(S): Zaima, Tadataka; Matsuno, Chikashi; Matsunaga, Yoshiharu; Mitsuhashi, Keiryo
CORPORATE SOURCE: Coll. Technol., Kanagawa Univ., Yokohama, 221, Japan
SOURCE: Nippon Kagaku Kaishi (1984), (8), 1293-8
CODEN: NKAKB8; ISSN: 0369-4577
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
GI



II III

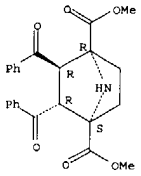
AB The photoinitiated cycloaddn. of the title compound (I) with various acetylenic and ethylenic compds. was described. E.g., irradiation of I with dicyanoacetylene and 1,2-dicyanoethylene in MeCN gave azabicycloheptene II and azabicycloheptane III resp.
IT **93179-77-2P 93179-78-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 93179-77-2 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-1,2,4-tricarboxylic acid, 3-benzoyl-, trimethyl ester, (2-endo,3-exo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

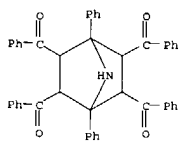


L4 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
RN 93179-78-3 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-1,4-dicarboxylic acid, 2,3-dibenzoyl-, dimethyl ester, (2-endo,3-exo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L4 ANSWER 18 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1970:476967 CAPLUS
DOCUMENT NUMBER: 73:76967
TITLE: 1,3-Dipolar cycloadditions. LV. 1-Pyrrolines and 7-azabicyclo[2.2.1]heptane derivates from azlactones and activated alkenes
AUTHOR(S): Huisgen, Rolf; Gotthardt, Hans; Bayer, Horst O.
CORPORATE SOURCE: Inst. Org. Chem., Univ. Muenchen, Munich, Fed. Rep. Ger.
SOURCE: Chemische Berichte (1970), 103(8), 2368-87
CODEN: CHBEAM; ISSN: 0009-2940
DOCUMENT TYPE: Journal
LANGUAGE: German
GI For diagram(s), see printed CA Issue.
AB 2,4-Diphenyl-2-oxazolin-5-one (I) reacted as an oxazolium tautomer with di-Me fumarate (II) in 1:1 molar ratio on heating in xylene at 120° to give 67% di-Me 2,5-diphenyl-1-pyrroline-3,4-trans-dicarboxylate (III) and 1:2 molar ratio to give 46% (or 77% from molten II) tetra-Me 1,4-diphenyl-7-azabicyclo[2.2.1]heptane-2,5-exo,3,6-endo-tetracarboxylate (IV) and some III. Maleic anhydride, N phenylmaleimide, 1,2-dibenzoylethylene, Me acrylate, and acenaphthylene reacted similarly to II with I.
IT **28278-04-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 28278-04-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2,3,5,6-tetrabenzoyl-1,4-diphenyl-, stereoisomer (8CI) (CA INDEX NAME)

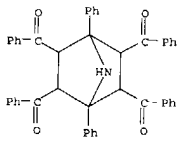


L4 ANSWER 19 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1968:419037 CAPLUS
DOCUMENT NUMBER: 69:19037
TITLE: Tetramethyl 1,4-diphenyl-7-azabicyclo[2.2.1]heptane 2,3,5,6 trans,trans-tetracarboxylate and similar compounds
PATENT ASSIGNEE(S): Union Carbide Corp.; Union Carbide European Research Associates S. A.
SOURCE: Brit., 8 pp.
CODEN: BRXXAA
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1098356		19680110		
DE 1470389			DE	
PRIORITY APPLN. INFO.:			DE	19640212

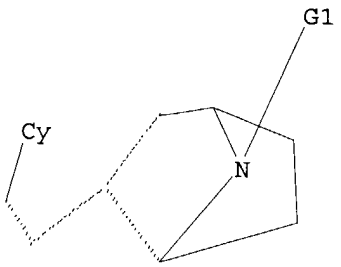
AB The title compds. are prepared by treating azlactones or mesoionic azlactones with ethylenically unsatd. compds. and are useful as intermediates in the manufacture of products useful in pharmacy and agriculture. Thus, 5.93 g. 2,4-diphenyloxazol-5-one (I) was added during 2 hrs. to 36.0 g. molten di-Me fumarate at 130° to give 9.2 g. of the title compound, m. 197-8° (MeCN). Similarly prepared were (starting compds., product, and m.p. given): I and di-Me maleate, tetra-Me 1,4-diphenyl-7-azabicyclo [2.2.1]heptane-2,3,5,6-cis, -cis-tetracarboxylate, 272-4°; I and N-phenylmaleimide, 1,4-diphenyl-7-azabicyclo[2.2.1]heptane- 2,3,5,6-cis, cis-tetracarboxylic bis(N-phenylimide), 338°; I and trans-dibenzoylethylene, 1,4-diphenyl-2,3,5, 6-tetrabenzoyl-7 azabicyclo [2.2.1]heptane, 185-6°; I and maleic anhydride, 1,4-diphenyl- 7-azabicyclo[2.2.1] heptane-2,3,5,6-cis, cis-tetracarboxylic dianhydride, 260°; I and Me acrylate, di-Me 1,4-diphenyl- 7 azabicyclo[2.2.1] heptane-2,5-dicarboxylate, -(b0.05 180 5°); N-(p-methoxybenzoyl)phenylglycine, Ac2O, and maleic anhydride, 1-(p-methoxyphenyl)-4-phenyl-7-azabicyclo[2.2.1]heptane-2, 3,5,6 cis,cis-tetracarboxylic dianhydride, 249-50°; anhydro-5-hydroxy-3-methyl-2, 4-diphenyloxazolium hydroxide and N-phenylmaleimide, 1,4-diphenyl-7-methyl-7-azabicyclo[2.2.1]heptane- 2,3,5,6-cis,cis tetracarboxylic bis(N-phenylimide), 313-14°; I, di-Me fumarate, and acenaphthalene, di Me 7,10 diphenyl 6b,7,8,9,10,10a-hexahydrofluoranthene-7, 10-imine-8,9-dicarboxylate, 233-4°.
IT **18955-41-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 18955-41-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2,3,5,6-tetrabenzoyl-1,4-diphenyl- (8CI) (CA INDEX NAME)

L4 ANSWER 19 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1 H,Ak

Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SCREEN SEARCH COMPLETED - 1032 TO ITERATE

96.9% PROCESSED 1000 ITERATIONS 2 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 18713 TO 22567
PROJECTED ANSWERS: 2 TO 127

L2 2 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 15:02:43 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 21187 TO ITERATE

100.0% PROCESSED 21187 ITERATIONS 43 ANSWERS
SEARCH TIME: 00.00.01

L3 43 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	155.42	155.63

FILE 'CAPLUS' ENTERED AT 15:02:49 ON 18 OCT 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 18 Oct 2004 VOL 141 ISS 17
FILE LAST UPDATED: 17 Oct 2004 (20041017/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l3
L4 3 L3

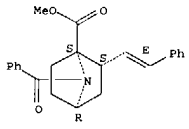
=> d ibib abs hitstr tot

L4 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:405903 CAPLUS
DOCUMENT NUMBER: 139:197723
TITLE: Olefination of methyl (1S,2R,4R)-N-benzoyl-2-formyl-7-azabicyclo[2.2.1]heptane-1-carboxylate, a synthetic approach to new conformationally constrained prolines
AUTHOR(S): Gil, Ana M.; Bunuel, Elena; Diaz-de-Villegas, Maria D.; Cativiela, Carlos
CORPORATE SOURCE: ICMA, Departamento de Quimica Organica, Universidad de Zaragoza-CSIC, Zaragoza, 50009, Spain
SOURCE: Tetrahedron: Asymmetry (2003), 14(11), 1479-1488
CODEN: TASYE3; ISSN: 0957-4166
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:197723

AB Wittig olefination of Me (1S,2R,4R)-N-benzoyl-2-formyl-7-azabicyclo[2.2.1]heptane-1-carboxylate with several phosphoranes and the Horner-Wittig reaction, using Me diethylphosphonoacetate, have been tested in order to evaluate their utility in the synthesis of β-substituted conformationally constrained prolines. Subsequent elaboration of the resulting alkenes has provided proline-amino acid chimeras [combinations of proline with other α-amino acids, such as L-norvaline, L-norleucine, L-α-(3-phenylpropyl)glycine or L-homoglutamic acid] with the 7-azabicyclo[2.2.1]heptane skeleton in an enantiomerically pure form.

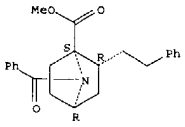
IT **583831-65-6P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(crystal structure of; preparation of conformationally constrained azabicyclo proline derivs. via Wittig olefinations of Me benzoylformylazabicycloheptane carboxylate with phosphoranes and Horner-Wittig reaction using Me diethylphosphonoacetate)
RN 583831-65-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-1-carboxylic acid, 7-benzoyl-2-[(1E)-2-phenylethenyl]-, methyl ester, (1S,2S,4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).
Double bond geometry as shown.



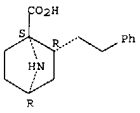
IT **583831-71-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of conformationally constrained azabicyclo proline derivs. via Wittig olefinations of Me benzoylformylazabicycloheptane carboxylate with phosphoranes and Horner-Wittig reaction using Me diethylphosphonoacetate)
RN 583831-71-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-1-carboxylic acid, 7-benzoyl-2-(2-phenylethyl)-, methyl ester, (1S,2R,4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



IT **583831-75-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of conformationally constrained azabicyclo proline deriva. via Wittig olefinations of Me benzoylformylazabicycloheptane carboxylate with phosphoranes and Horner-Wittig reaction using Me diethylphosphonoacetate)
RN 583831-75-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-1-carboxylic acid, 2-(2-phenylethyl)-, hydrochloride, (1S,2R,4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation ( ).



● HCl

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

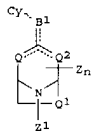
own work

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:123010 CAPLUS
DOCUMENT NUMBER: 136:183718
TITLE: Preparation of azabicycloalkanes as nicotinic cholinergic receptor agonists for treatment of central and autonomic nervous system disorders
INVENTOR(S): Bhatti, Balwinder Singh; Clark, Thomas Jeffrey
PATENT ASSIGNEE(S): Targacept, Inc., USA
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

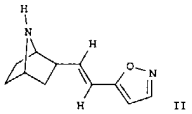
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002012245	A2	20020214	WO 2001-US22170	20010713
WO 2002012245	A3	20020613		
WO 2002012245	B1	20030320		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6624167	B1	20030923	US 2000-633156	20000804
AU 2001076911	A5	20020218	AU 2001-76911	20010713
EP 1305316	A2	20030502	EP 2001-954684	20010713
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001013033	A	20030715	BR 2001-13033	20010713
NZ 523728	A	20040924	NZ 2001-523728	20010713
NO 2003000547	A	20030204	NO 2003-547	20030204
US 2004152723	A1	20040805	US 2003-668692	20030923
PRIORITY APPLN. INFO.:			US 2000-633156	A 20000804
			WO 2001-US22170	W 20010713

OTHER SOURCE(S): MARPAT 136:183718
GI

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



I



II

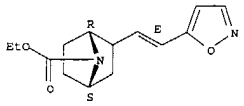
AB Title compds. I [Cy = 5-6 membered ring; B1 = alkylene bridging moiety; Q = (CH2)m; Q1 = (CH2)p; Q2 = (CH2)q; m = 1-4; p = 0-3; q = 0-2; m, p and q are selected such that the azabicyclic ring contains 6-9 members; Z = non-hydrogen substituent where n = 0-5; Z1 = H, alkyl] were prepared as nicotinic cholinergic receptor agonists. Thus, II was prepared in six steps by amidation of tropinone with Et chloroformate, bromination, ring contraction to intermediate Et 7-aza-2-(ethoxycarbonyl)bicyclo[2.2.1]hepta ne-7-carboxylate which is then reduced, condensed with di-Et (5 isoxazolylmethyl)phosphonate followed by N-deprotection. Low binding consts. indicate the compds. of the invention exhibit good high affinity binding to certain CNS nicotinic receptors with II exhibiting a Ki of 80 nM. I, as nicotinic cholinergic receptor agonists, are useful for the treatment of central and autonomic nervous system disorders.

IT **398490-30-7P 398490-31-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; preparation of azabicycloalkanes as nicotinic cholinergic receptor agonists)

RN 398490-30-7 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-7-carboxylic acid, 2-[(1E)-2-(5-isoxazolyl)ethenyl]-, ethyl ester, (1R,4S)-rel- (9CI) (CA INDEX NAME)

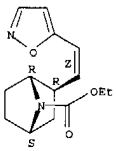
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 398490-31-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane-7-carboxylic acid, 2-[(1Z)-2-(5-isoxazolyl)ethenyl]-, ethyl ester, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

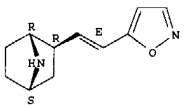


IT **398489-63-9P 398489-64-0P 398489-65-1P**
398489-66-2P 398489-84-4P 398489-86-6P
398489-87-7P 398489-88-8P 398489-89-9P
398489-90-2P 398489-91-3P 398489-92-4P
398489-93-5P 398489-94-6P 398489-96-8P
398489-98-0P 398489-99-1P 398490-01-2P
398490-02-3P 398490-03-4P 398490-05-6P
398490-06-7P 398490-07-8P 398490-08-9P
398490-09-0P 398490-10-3P 398490-17-0P
398490-18-1P 398490-19-2P 398490-20-5P
398490-21-6P 398490-22-7P 398490-23-8P
398490-24-9P 398490-25-0P 398490-26-1P
398490-41-0P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(target compound; preparation of azabicycloalkanes as nicotinic cholinergic receptor agonists)

RN 398489-63-9 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-isoxazolyl)ethenyl]-, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

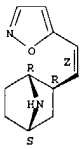
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



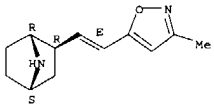
RN 398489-64-0 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-isoxazolyl)ethenyl]-, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



RN 398489-65-1 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(3-methyl-5-isoxazolyl)ethenyl]-, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

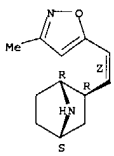
Relative stereochemistry.
Double bond geometry as shown.



RN 398489-66-2 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(3-methyl-5-isoxazolyl)ethenyl]-, (1R,2R,4S)-rel- (9CI) (CA INDEX NAME)

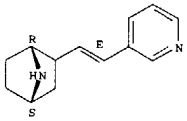
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



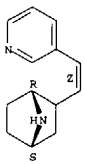
RN 398489-84-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(3-pyridinyl)ethenyl]-, (1R,4S)-rel-
(9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



RN 398489-86-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(3-pyridinyl)ethenyl]-, (1R,4S)-rel-
(9CI) (CA INDEX NAME)

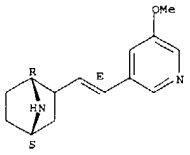
Relative stereochemistry.
Double bond geometry as shown.



RN 398489-87-7 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-methoxy-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

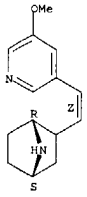
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 398489-88-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-methoxy-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

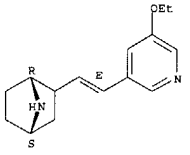
Relative stereochemistry.
Double bond geometry as shown.



RN 398489-89-9 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-ethoxy-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

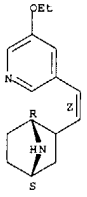
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 398489-90-2 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-ethoxy-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

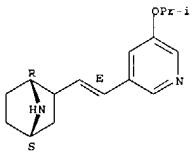
Relative stereochemistry.
Double bond geometry as shown.



RN 398489-91-3 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-[5-(1-methylethoxy)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

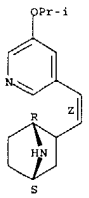
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



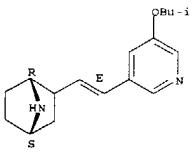
RN 398489-92-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-[5-(1-methylethoxy)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



RN 398489-93-5 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-[5-(2-methylpropoxy)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

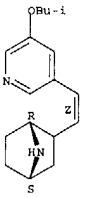
Relative stereochemistry.
Double bond geometry as shown.



RN 398489-94-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-[5-(2-methylpropoxy)-3-

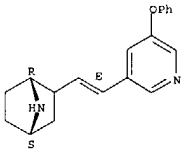
L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



RN 398489-96-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-phenoxy-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

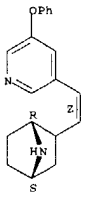
Relative stereochemistry.
Double bond geometry as shown.



RN 398489-98-0 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-phenoxy-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

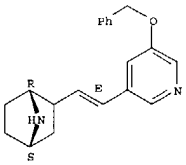
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 398489-99-1 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-[5-(phenylmethoxy)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

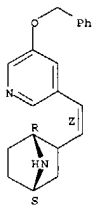
Relative stereochemistry.
Double bond geometry as shown.



RN 398490-01-2 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-[5-(phenylmethoxy)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

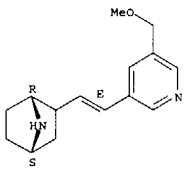
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 398490-02-3 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-[5-(methoxymethyl)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

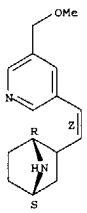
Relative stereochemistry.
Double bond geometry as shown.



RN 398490-03-4 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-[5-(methoxymethyl)-3-pyridinyl]ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

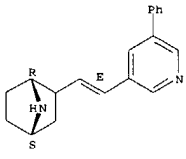
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 398490-05-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-phenyl-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

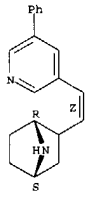
Relative stereochemistry.
Double bond geometry as shown.



RN 398490-06-7 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-phenyl-3-pyridinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

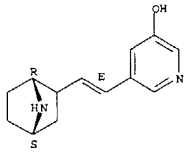
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



RN 398490-07-8 CAPLUS
CN 3-Pyridinol, 5-[(1E)-2-(1R,4S)-7-azabicyclo[2.2.1]hept-2-ylethenyl]-, rel-
(9CI) (CA INDEX NAME)

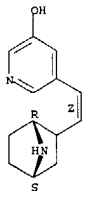
Relative stereochemistry.
Double bond geometry as shown.



RN 398490-08-9 CAPLUS
CN 3-Pyridinol, 5-[(1Z)-2-(1R,4S)-7-azabicyclo[2.2.1]hept-2-ylethenyl]-, rel-
(9CI) (CA INDEX NAME)

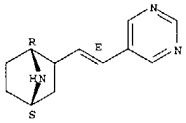
Relative stereochemistry.
Double bond geometry as shown.

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



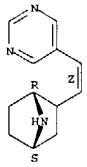
RN 398490-09-0 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1E)-2-(5-pyrimidinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

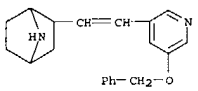


RN 398490-10-3 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[(1Z)-2-(5-pyrimidinyl)ethenyl]-, (1R,4S)-rel- (9CI) (CA INDEX NAME)

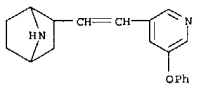
Relative stereochemistry.
Double bond geometry as shown.



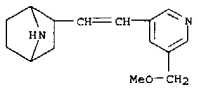
L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



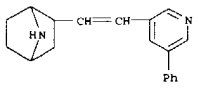
RN 398490-22-7 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(5-phenoxy-3-pyridinyl)ethenyl]- (9CI) (CA INDEX NAME)



RN 398490-23-8 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-[5-(methoxymethyl)-3-pyridinyl]ethenyl]- (9CI) (CA INDEX NAME)



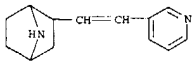
RN 398490-24-9 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(5-phenyl-3-pyridinyl)ethenyl]- (9CI) (CA INDEX NAME)



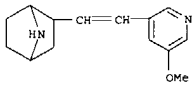
RN 398490-25-0 CAPLUS
CN 3-Pyridinol, 5-[2-(7-azabicyclo[2.2.1]hept-2-yl)ethenyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

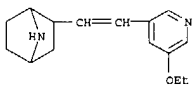
RN 398490-17-0 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(3-pyridinyl)ethenyl]- (9CI) (CA INDEX NAME)



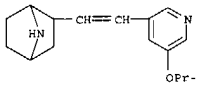
RN 398490-18-1 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(5-methoxy-3-pyridinyl)ethenyl]- (9CI) (CA INDEX NAME)



RN 398490-19-2 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(5-ethoxy-3-pyridinyl)ethenyl]- (9CI) (CA INDEX NAME)

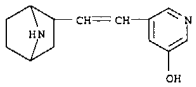


RN 398490-20-5 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-[5-(1-methylethoxy)-3-pyridinyl]ethenyl]- (9CI) (CA INDEX NAME)

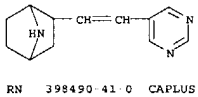


RN 398490-21-6 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-[5-(phenylmethoxy)-3-pyridinyl]ethenyl]- (9CI) (CA INDEX NAME)

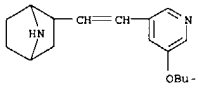
L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



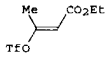
RN 398490-26-1 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-(5-pyrimidinyl)ethenyl]- (9CI) (CA INDEX NAME)



RN 398490-41-0 CAPLUS
CN 7-Azabicyclo[2.2.1]heptane, 2-[2-[5-(2-methylpropoxy)-3-pyridinyl]ethenyl]- (9CI) (CA INDEX NAME)



L4 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:533576 CAPLUS
DOCUMENT NUMBER: 121:133576
TITLE: Palladium-catalyzed asymmetric hydroalkenylation of norbornene
AUTHOR(S): Ozawa, Fumiyuki; Kobatake, Yasuhiro; Kubo, Akihiko; Hayashi, Tamio
CORPORATE SOURCE: Catalysis Research Center, Hokkaido University, Sapporo, 060, Japan
SOURCE: Journal of the Chemical Society, Chemical Communications (1994), (11), 1323-4
CODEN: JCCCAT; ISSN: 0022-4936
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 121:133576
GI



I

AB Catalytic asym. hydroalkenylation of norbornene (bicyclo[2.2.1]hept-2-ene) can be performed in 093% e.e. using 1-methyl-2-(ethoxycarbonyl)ethenyl triflate (I) as alkenylation agent and Pd{(R)-binap}2 as chiral catalyst.

IT **157134-79-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 157134-79-7 CAPLUS

CN 7-Azabicyclo[2.2.1]heptane-7-carboxylic acid, 2-(2-phenylethenyl)-, methyl ester, [1R [1α,2α(E),4α]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.